AREAS OF HIGH AND LOW PRESSURE.

During the month there were charted nine highs and twelve lows. (See Charts I and II.) A brief description of some of their more marked characteristics follows herewith:

None were of such a character as to merit special description. The majority of the highs originated west of the one hundred and fifth meridian, and six of them reached the Atlantic coast. But one passed south of the thirty-sixth parallel. Twice during the month a high pressure area persisted near the south Atlantic and east Gulf coasts for four or five days, and, in combination with low areas in the Northwest, caused severe hot waves in the Ohio Valley and Middle Atlantic States.

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long W.	Length.	Duration.	Daily.	Hourly.
High areas.		°	°		°	°	*Miles.*	*Days.*	*Miles.*	*Miles.*
I	6, a.m.	47	123	11, a.m.	39	75	3,255	5.0	651	27.1
II	10, a.m.	51	114	13, p.m.	33	80	2,320	3.5	663	27.6
III	15, a.m.	53	108	16, a.m.	97	50	565	1.0	565	23.5
IV	16, a.m.	43	109	21, a.m.	45	64	2,680	5.0	536	22.3
V	18, a.m.	47	123	22, p.m.	42	70	2,970	4.5	660	27.5
VI	21, a.m.	51	114	23, p.m.	47	92	1,200	2.5	480	20.0
VII	25, a.m.	50	100	29, a.m.	39	75	2,050	4.0	512	21.3
VIII	28, p.m.	40	105	31, a.m.	37	90	1,300	2.5	520	21.7
IX	30, a.m.	50	108	2, p.m.*	39	75	2,050	3.5	586	24.4
Sums							18,390	31.5	5,173	215.4
Mean of 9 paths							2,043		575	23.9
Mean of 31.5 days									584	24.3
Low areas.										
I	2, p.m.	45	93	5-6, a.m.	48	54	2,000	2.5	800	33.3
II	8, a.m.	54	114	14, p.m.	46	60	3,065	6.5	472	19.7
III	10, p.m.	45	118	13, a.m.	44	98	1,660	2.5	664	27.7
IV	13, a.m.	54	114	16, a.m.	46	78	1,820	3.0	607	25.3
V	15, a.m.	40	109	19, a.m.	46	60	2,860	4.0	715	29.8
VI	16, p.m.	54	114	19, p.m.	46	86	1,720	3.0	573	23.9
VII	19, a.m.	38	100	21, p.m.	48	68	1,925	2.5	770	32.1
VIII	19, p.m.	54	114	22, p.m.	48	85	1,830	3.0	732	31.0
IX	22, p.m. / 23, p.m.	38	100	26, a.m.	47	65	2,080	2.5	832	34.7
X	25, a.m. / 25, p.m.	54	114	30, a.m.	48	68	2,320	4 5	516	21.5
XI	28, p.m.	54	114	31, p.m.	48	68	3,060	3.0	1,020	42.5
XII	31, p.m.	51	114	1-2, p.m.*	44	103	700	1.0	700	29.2
Sums							25,040	38.0	8,401	350.7
Mean of 12 paths							2,087		700	29.2
Mean of 38 days									659	27.5

*August.

The lows, as a rule, originated in the extreme Northwest, west of the one hundred and tenth meridian. They moved generally eastward, and three of them reached the Atlantic coast. Three disappeared in Ontario. Three others, Nos. V, VII, and IX originated in the extreme central west and moved northeastward to the Atlantic Ocean by way of Canada. Two, Nos. III and XII, were dissipated in South Dakota. None moved south of the thirty-seventh parallel, and east of the Mississippi River there were none south of the forty-second parallel.—*H. C. Frankenfield, Forecast Official.*

RIVERS AND FLOODS.

The abnormally low water which prevailed during June in the Mississippi River north of the mouth of the Illinois, was considerably augmented during July by ample falls of rain, and the average stages were about one foot higher than during June. Fair navigable stages prevailed after the first few days of the month, but at its close the water was again falling generally.

The Missouri fell steadily throughout the month, while in the lower Mississippi the stages were extremely favorable for navigation.

Ample stages also prevailed in the Ohio River, with the maximum stages above the mouth of the Tennessee, as a rule, during the closing days of the month.

From Paducah, Ky., to Cairo, Ill., the highest stages were recorded on the 1st and 2d, on account of the moderate flood out of the lower Tennessee River, which was in progress at the end of June, and which continued through the 2d of July. Warnings of this flood were accurate and timely, but unavoidable damage to growing crops, etc., amounting to perhaps $75,000, was caused by high water.

In the rivers of the eastern system nothing worthy of special note transpired, although high stages prevailed in the Black Warrior and lower Tombigbee rivers during the first few days of the month.

The highest and lowest water, mean stage, and monthly range at 128 river stations are given in Table XI. Hydrographs for typical points on seven principal rivers are shown on Chart V. The stations selected for charting are: Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.—*H. C. Frankenfield, Forecast Official.*

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following extracts relating to the general weather conditions in the several States and Territories are taken from the monthly reports of the respective sections of the Climate and Crop Service. The name of the section director is given after each summary.

Rainfall is expressed in inches and temperature in degrees Fahrenheit.

Alabama.—The mean temperature was 79.8°, or 0.2° below normal; the highest was 102°, at Eufaula on the 7th, and the lowest, 56°, at Maple Grove on the 10th. The average precipitation was 4.93, or 0.38 below normal; the greatest monthly amount, 9.69, occurred at Daphne, and the least, 0.45, at Fort Deposit.—*F. P. Chaffee.*

Arizona.—The mean temperature was 84.6°, or 0.7° above normal; the highest was 120°, at Signal on the 11th, and the lowest, 34°, at Flagstaff on the 4th. The average precipitation was 0.65, or 1.31 below normal; the greatest monthly amount, 2.97, occurred at Mount Huachuca, while none fell at a number of stations.—*W. G. Burns.*

Arkansas.—The mean temperature was 79.7°, or 0.7° below normal; the highest was 102°, at Jonesboro on the 3d, and the lowest, 51°, at Witts Springs. The average precipitation was 4.46, or 0.63 above normal; the greatest monthly amount, 8.37, occurred at Wiggs, and least, 1.09, at Osceola.—*E. B. Richards.*

California.—The mean temperature was 75.9°, or 0.4° below norma the highest was 126°, at Salton on the 13th, and the lowest, 30°, at Bodie on the 2d. The average precipitation was 0.03, or 0.02 below normal; the greatest monthly amount, 1.10, occurred at Needles, while none fell at over 100 stations.—*Alexander G. McAdie.*

Colorado.—The mean temperature was 67.7°, or about normal; the highest was 109°, at Delta on the 12th, and the lowest, 25°, at Wagon-wheel Gap on the 2d, 6th, and 17th. The average precipitation was 1.13, or about 1.20 below normal; the greatest monthly amount, 4.57, occurred at Wray, while only a trace fell at a majority of stations located on the upper drainage areas of the Arkansas, Grand, and Gunnison rivers.—*F. H. Brandenburg.*

Florida.—The mean temperature was 81.7°, or 0.3° above normal; the highest was 101°, at Ocala on the 6th and at Gainesville on the 7th and 11th, and the lowest, 62°, at St. Francis on the 16th. The